ADPRO VideoWall by Xtralis

Installation and User Manual

March 12, 2010
Doc. 13484_03

ADPRO® by xtralis™

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Convention	Description
Bold	Used to denote: emphasis Used for names of menus, menu options, toolbar buttons
Italics	Used to denote: references to other parts of this document or other documents. Used for the result of an action

The following icons are used in this document

Convention	Description
	Caution: This icon is used to indicate that there is a danger to equipment. The danger could be loss of data, physical damage, or permanent corruption of configuration details.
	Warning: This icon is used to indicate that there is a danger of electric shock. This may lead to death or permanent injury.
	Warning: This icon is used to indicate that there is a danger of inhaling dangerous substances. This may lead to death or permanent injury.

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1 Introduction

VideoWall provides the facility to display multiple cameras on multiple monitors simultaneously. The monitors show live video from any site configured with an ADPRO video transmitter.

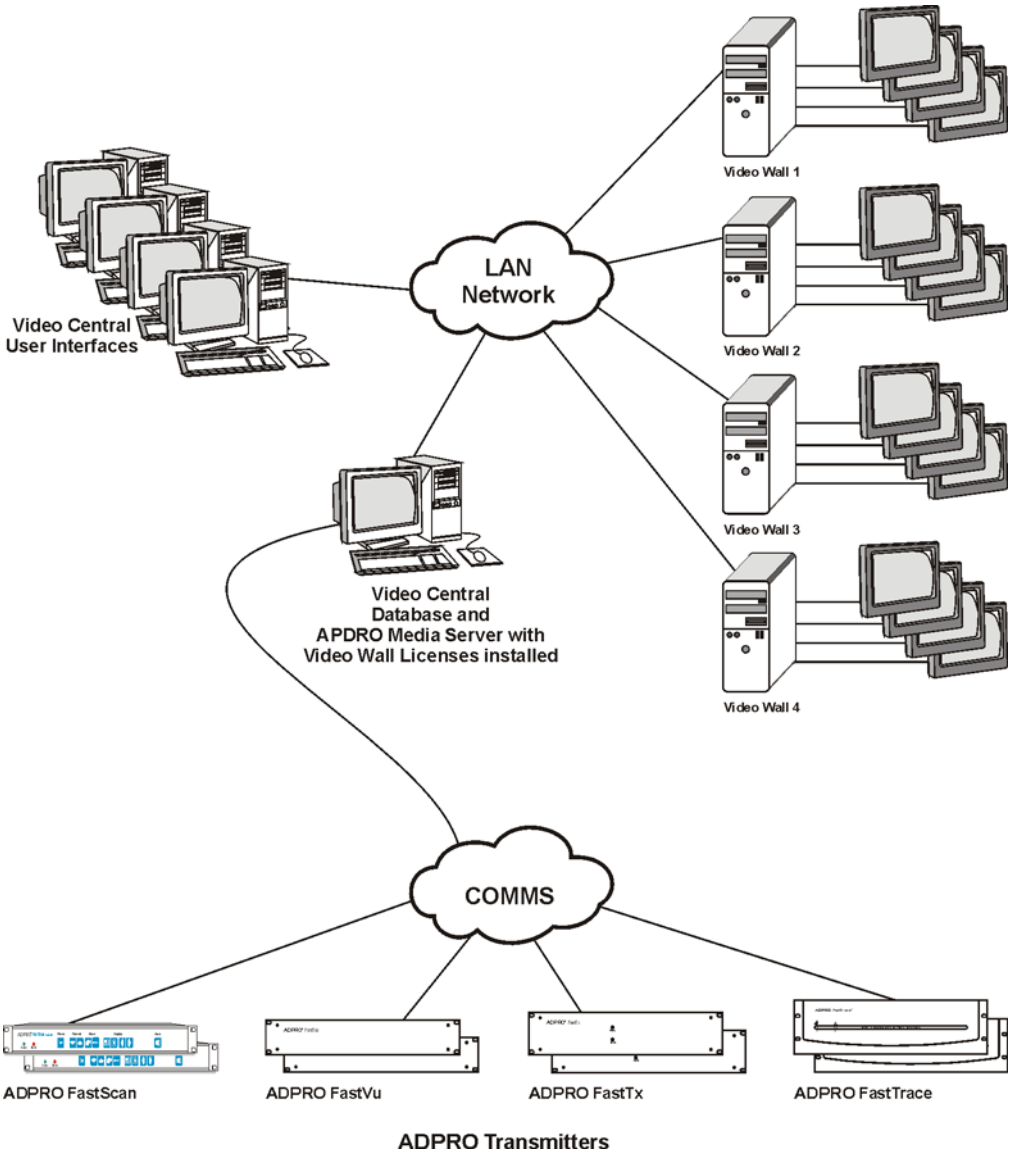


Figure 1: Typical VideoWall Installation

Up to four VideoWall licences may be installed on the VideoCentral Database PC. Each VideoWall license will support a VideoWall PC which, in turn, can support up to four display monitors. VideoWall is very flexible and can be configured to suit the PC hardware and monitor types used, as well as the installation requirements of a particular site.

Note: The monitor on the VideoCentral Database and Media Server PC is independent of the configuration of the VideoWall itself and is managed through **Display Properties,** under Windows' Control Panel.

2 Scope

This manual provides information on how to install and configure VideoWall for operation with VideoCentral Gold.

3 Requirements

To use VideoWall functionality, the following is required:

- VideoWall is a licensed feature of VideoCentral Gold. A licence must be purchased to enable this functionality.
- VideoCentral Gold software V11.00 or later.

Note: VideoWall functionality is not available with VideoCentral Lite.

3.1 System Requirements

Note: To run VideoWall, the accompanying VideoCentral Database PC must also meet the minimum specification.

Minimum VideoWall PC specification:

- Processor: 2GHz dual core processor
- CPU Memory: 1GB RAM
- Motherboard: At least one PCI express slot for graphics card. For multi-graphics cards support, a motherboard with multiple PCI Express slots is required
- Graphics card: PCI Express Graphics cards to support required monitor layout with at least 256MB of memory
- Network Port*: 1Gbps transmission rate.
- OS: Win XP Pro
- .NET 1.1 and 2.0 installed**

Minimum VideoCentral Database specification:

- Processor: 2GHz dual core processor
- CPU Memory: 1GB RAM
- Network Port*: 1Gbps transmission rate.
- OS: Win XP Pro, Server 2003
- .NET 1.1 and 2.0 installed**

* Due to the speed requirements of video transmission, the physical network should also be capable of supporting 1Gbps transmission rates.

** **.NET Software**: This software will need to be installed from the VideoCentral V11 (or higher) DVD-ROM if it is not already installed on the PC.

To install the .NET software:

1. From the menu of the VideoCentral Product Installation DVD-ROM, select the **TOOLS and UTILITIES** button.
2. Open the folder labelled: *Microsoft .NET Framework Version 1.1 Redistributable Package* and run the “dotnetfx.exe” file.
3. Then repeat this for the *Version 2.0* folder.

4 Installation

Before installing VideoWall, the user must have available, as a minimum, the following:

- VideoCentral Gold Version 11.00 (or higher) software
- VideoWall Licence
- At least two networked PCs; one for the VideoCentral Database (fitted with dongle) and another for VideoWall use with at least one monitor.

4.1 System Configuration

The configuration of a VideoWall system has these guidelines:

- All PCs in the system must be running the same version of VideoCentral (V11 or higher)
- Up to four VideoWall PCs can be configured within a VideoCentral Gold System for a maximum of 320 possible cameras
- Each VideoWall PC requires a licence to be installed at the VideoCentral Database
- Each VideoWall PC should be separate and not a User Interface PC or VideoCentral Database PC
- When a VideoWall licence is installed on a VideoCentral system that has one hardware dongle, the system will support (up to) 24 remote sites via a mixture of network connections and up to four serial (PSTN or ISDN) connections (eight serial connections available if used with Server 2003)
- Each additional hardware dongle, will allow the system to support a further 24 remote sites
- The VideoWall Control Interface (that is accessed from the VideoCentral User Interface), is used to manage the display layout of the cameras shown on the VideoWall monitors. The configuration of the monitors attached to each VideoWall PC is, however, managed from the VideoWall PCs themselves
- Up to four monitors may be configured on each VideoWall PC. Each monitor can display up to 20 cameras (cameos), therefore a maximum of 80 cameos is available to display the video from all cameras located at all remote sites.

4.2 Firewalls

VideoCentral requires that Port 8005 TCP to be 'open' in any router or software firewall. Opening of this port is best achieved by allowing the virus scan software to accept VideoCentral when prompted to do so. The VideoCentral module(s) in question are called MD.exe, UI.exe, SPM.exe and ADPROMEDIASERVER.exe.

Also, VideoWall uses 'ping' (ICMP) commands to communicate. Many firewalls and virus programs block ICMP commands. To overcome this issue, use the firewall or virus interface to grant access to ICMP Protocol.

For more information on firewall and virus access, refer to the documentation or websites associated with these products.

4.3 At the VideoCentral Database Server

A VideoWall licence must be installed at the VideoCentral Database server. Refer to the ADPRO Licensing Instructions manual for more information. The Licensing Instructions are available on the website:

WEBSITE: www.xtralis.com/adpro

Existing versions of VideoCentral Gold must be shut down and upgraded to V11 (or higher). After upgrade, the CMS Administrator enters the new license "key" for a VideoWall via the "Licensing" option of the VideoCentral database.

The communications connections for VideoWall and VideoCentral are shared. To ensure that alarm handling is not compromised, the VideoCentral Database Server manages the allocation of communications between the VideoWall and the alarm handling capability of VideoCentral. A specified number of connections (Session Handlers) can be reserved for alarm handling. See the VideoWall Licence explanation below.

4.4 VideoWall Licence

VideoWall adds video surveillance capability to VideoCentral.

The installation of the first VideoWall licence enables each (and every) hardware dongle in the VideoCentral system to manage 24 Session Handlers (instead of the normal eight Session Handlers).

The extra sixteen Session Handlers may be shared between VideoWall and the alarm handling capability of VideoCentral.

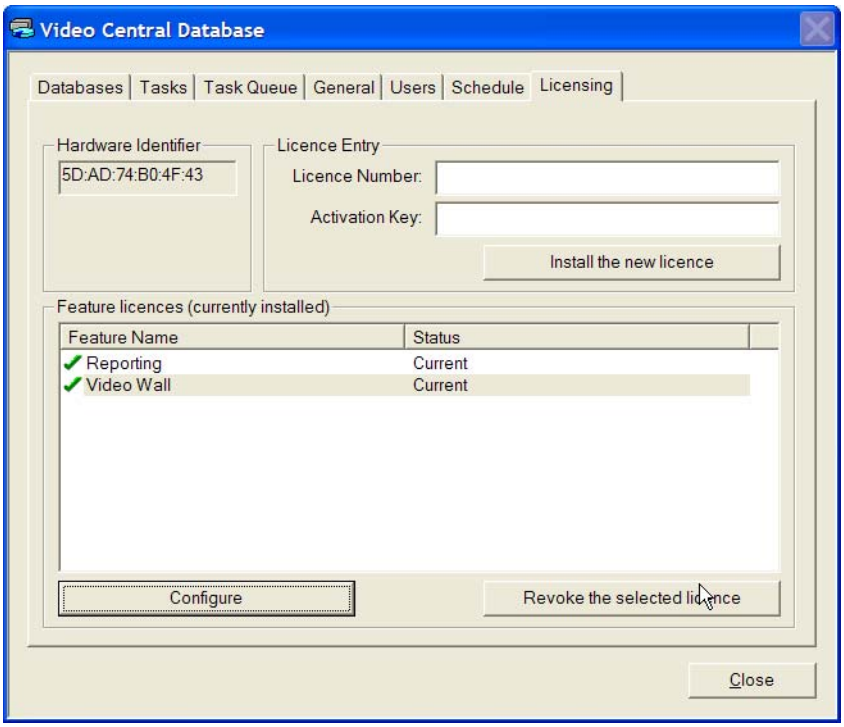


Figure 2: VideoCentral Licensing

At the VideoCentral Database server, the number of Session Handlers available for alarm handling can be controlled by selecting *any* VideoWall licence in the list (up to four may be displayed), and then selecting **Configure.**

The VideoWall Session Handler Allocation screen applies globally to all VideoWall licences. It is now accessible to configure the Session Handlers.

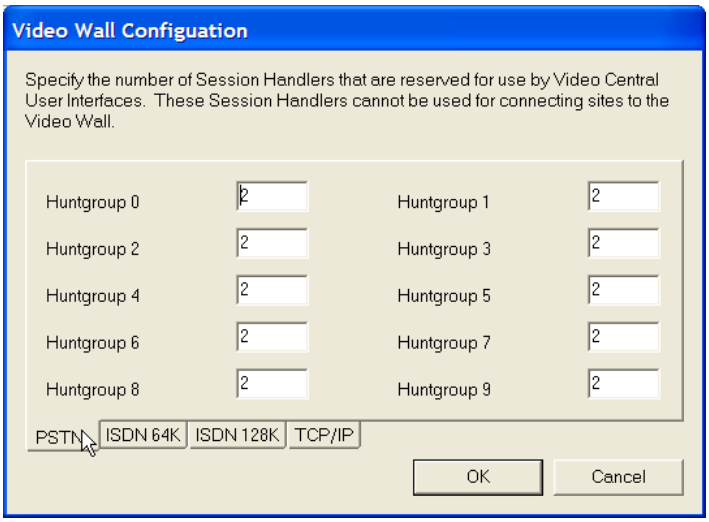


Figure 3: VideoWall Session Handler Allocation

Note: Only one VideoWall license is required to increase the number of Session Handlers to 24 for *every hardware dongle.* (If, for example, there were three dongles in the system, the VideoWall licence would increase the number of session handlers available to 72)

The tabs across the bottom of the window select the type of communication link being allocated. Available types are PSTN, ISDN 64K, ISDN 128K and TCP/IP.

Note: In the system, for each Session Handler (SH) PC that is fitted with a hardware dongle, the following “serial connection” (PSTN/ISDN) limit applies:
- SH PC running Windows XP or Windows 2000 operating system = 4
- SH PC running Server 2003 operating system = 8
The remainder of the 24 Session Handlers are automatically assigned as network type SH.

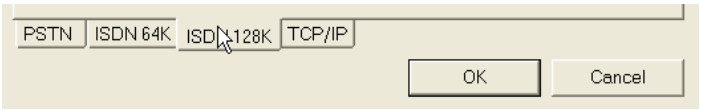
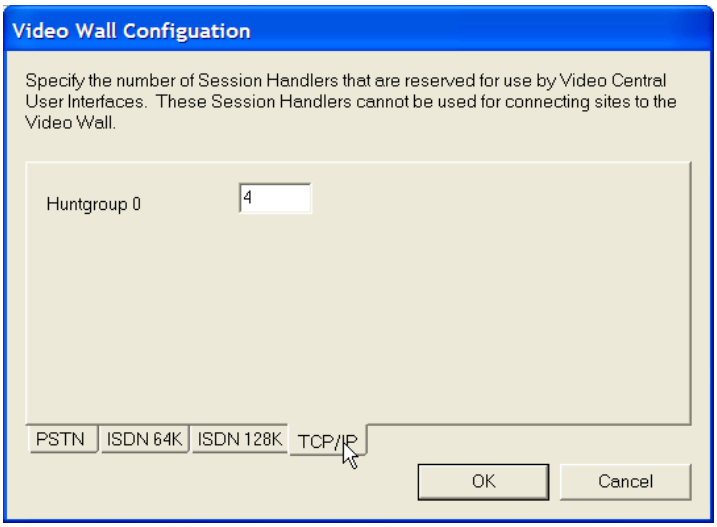


Figure 4: VideoWall Session Handler Allocation Tabs

Select the tab for the type of Session Handler (communication device) to be configured. Enter the number of Session Handlers that are reserved for alarm handling (ie.cannot be used for VideoWall)


Video Wall Configuation
Specify the number of Session Handlers that are reserved for use by Video Central User Interfaces. These Session Handlers cannot be used for connecting sites to the Video Wall.
Huntgroup 0
4
PSTN
ISDN 64K
ISDN 128K
TCP/IP
OK
Cancel

In a purely TCP/IP network environment (with one hardware dongle and 24 Session Handlers available) if "4" is entered on the TCP/IP tab, then four Session Handlers are reserved for managing incoming alarms from sites. This leaves 20 Session Handlers (or Sites) available for the VideoWall PC(s).

Note: The serial Session Handlers are divided into Hunt Groups whereas the TCP/IP Session Handlers exist in one group. If no Hunt Groups are configured, then all serial Session Handlers are located in Hunt Group 0.

4.5 At the VideoWall PC

To install the VideoWall software on a VideoWall PC:

1. Select the **VideoWall** button on the DVD splash screen.
2. Follow the installation wizard to install VideoWall. Once the installation is complete, the VideoWall and Configure VideoWall icons are displayed on the desktop.

5 VideoWall PC Configuration

The configuration tool allows the CMS administrator to setup and manage a VideoWall PC. The administrator can manage features such as the monitors to be used and which VideoCentral Server PC the VideoWall PC will connect to. The administrator should:

1. Log into the VideoWall PC as Administrator
2. Double click on the **Configure VideoWall** icon on the VideoWall PC desktop.

3. The VideoWall Configuration screen is then displayed.

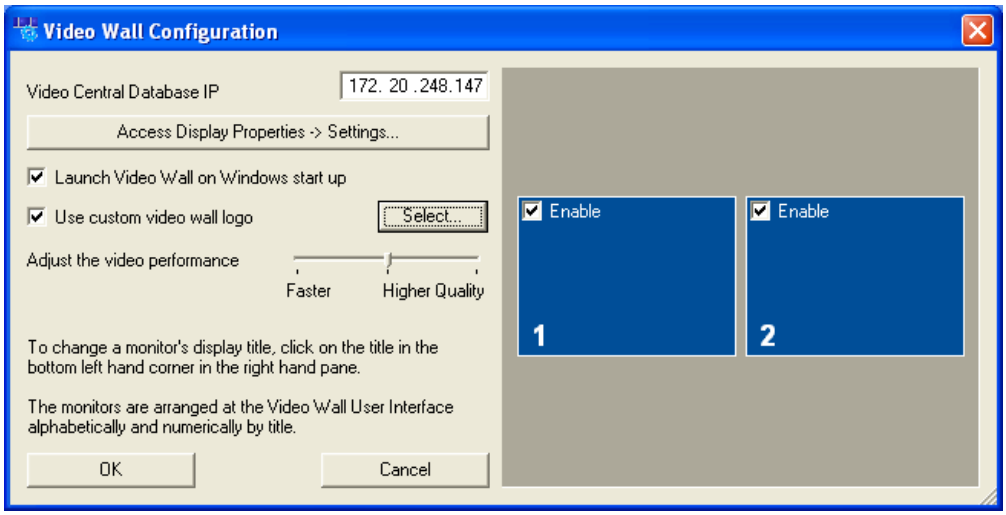

Video Wall Configuration
Video Central Database IP
172. 20 .248.147
Access Display Properties -> Settings...
Launch Video Wall on Windows start up
Use custom video wall logo
Select...
Adjust the video performance
Faster
Higher Quality
To change a monitor's display title, click on the title in the bottom left hand corner in the right hand pane.
The monitors are arranged at the Video Wall User Interface alphabetically and numerically by title.
OK
Cancel
Enable
1
Enable
2

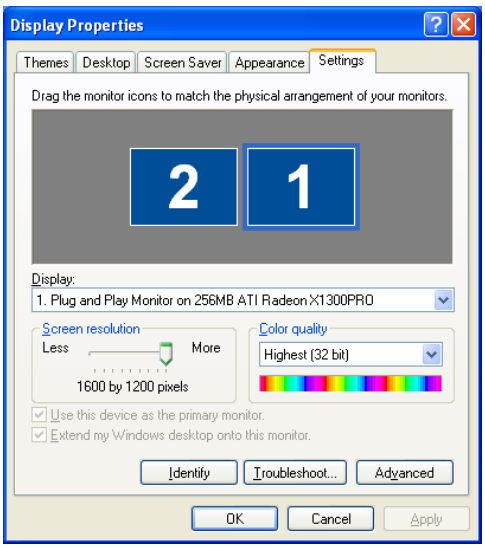
Figure 5: VideoWall Configuration with two Monitors

4. Enter the IP Address of the VideoCentral Database.
   If the IP Address of the VideoCentral Database PC is not known:
   (a) select **Start** / **Run**.
   (b) Type **cmd** and select **OK**.
   (c) Type **ipconfig** at the command window. The IP Address is displayed.
5. If more than one monitor is to be used, select **Access Display Properties -> Settings** to configure the monitor layout.
6. Check the **Launch VideoWall on Windows start up** check box if VideoWall should automatically run each time the PC restarts.
7. A custom graphic can be displayed on the VideoWall monitors when a cameo is not currently in use. Check the **Use custom VideoWall logo** and click **Select** to choose a JPEG (JPG), bitmap (BMP), GIFF, TIFF or PNG file.
8. To change the quality of the images displayed on the VideoWall, use the **Image Quality** slider. Moving the slider to the left or right adjusts the default quality by one level. The default image quality for various multiple camera display options is as follows:

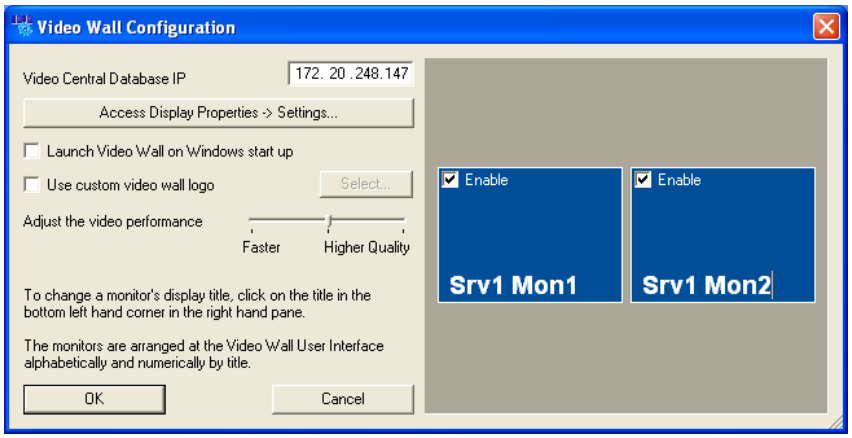
Table 1: Default Image Quality

Number of Cameras Displayed	Image Quality (1 - 7)
1	6
4	5
7	larger images = 5 smaller images = 3
9	4
10	larger images = 5 smaller images = 3
12	4
13	larger image = 5 smaller images = 3
16	3
20	2

9. The monitors displayed on the VideoWall reflect the setup of the Windows display properties settings. Use the 'Access Display Properties -> Settings...' button to view the Display Properties - Settings tab.



10. Apply the display colour quality and screen resolution properties to match those of the monitors being used. Once these have been applied, the VideoWall Configuration screen will again be displayed.
11. The monitor name may be changed by clicking on the current name in the bottom / left of the screen. The name may have a maximum of 16 characters. The monitors will be organised by name, numerically and alphabetically.


Video Wall Configuration
Video Central Database IP
172. 20 .248.147
Access Display Properties -> Settings...
Launch Video Wall on Windows start up
Use custom video wall logo
Select...
Adjust the video performance
Faster
Higher Quality
To change a monitor's display title, click on the title in the bottom left hand corner in the right hand pane.
The monitors are arranged at the Video Wall User Interface alphabetically and numerically by title.
OK
Cancel
Enable
Srv1 Mon1
Enable
Srv1 Mon2

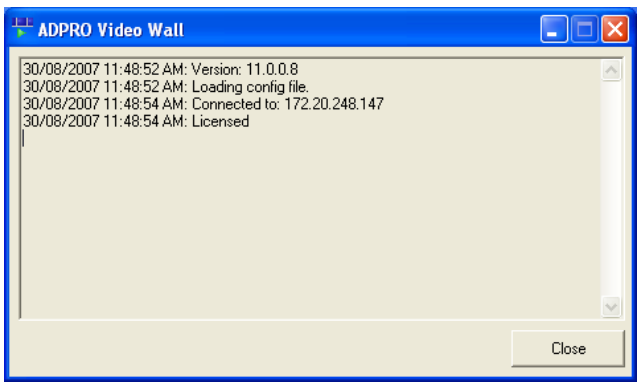
12. Click OK to finish and exit the Configuration screen.

6 Starting VideoWall

Ensure the VideoCentral Database is running, with the VideoWall licence enabled.

On each VideoWall PC, click the VideoWall icon on the desktop.

A dialog box showing the version number appears on the first monitor:



Possible problems that may be encountered at this point include messages such as:

- Not configured. Launch the VideoWall Configuration tool and close this application. If the configuration tool is already running then bring that to the front, with focus and close this application.
- Program Applications Port 8005 TCP blocked by firewall (refer to *Firewalls* on page 3).

- ICMP Protocol blocked by firewall (refer to *Firewalls* on page 3).
- Cannot connect to the VideoCentral Server. Fatal. Halts the start up process.
- Cannot obtain a licence. Fatal. Halts the start up process.
- Cannot restore the defaults. This is the last known layout and connections of this VideoWall. There may be problems such as:
  - No defaults present. Not fatal, message only, no defaults loaded.
  - Monitor configuration changed. Not fatal, message only, no defaults loaded.

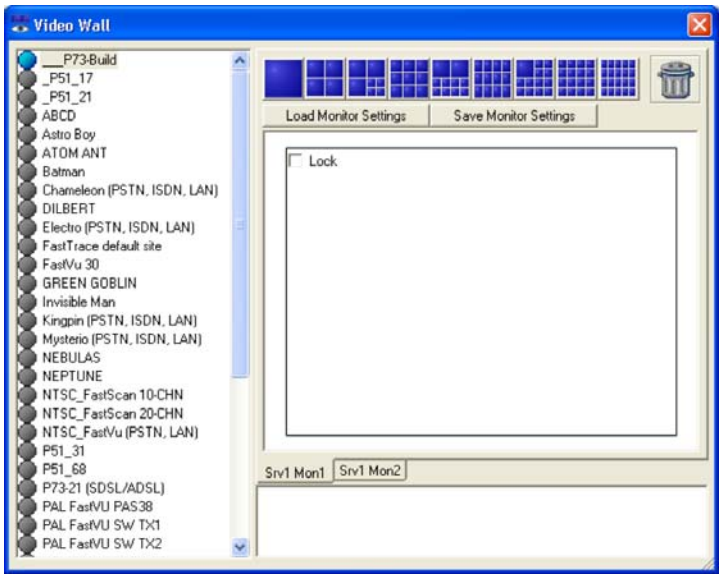
Any of the above problems will be reported on the output pane and either stops the execution of the VideoWall application or, if not fatal, the start up process will continue. Clicking the Close button will shut down the VideoWall application.

7 Controlling the VideoWall

7.1 Administrator Access

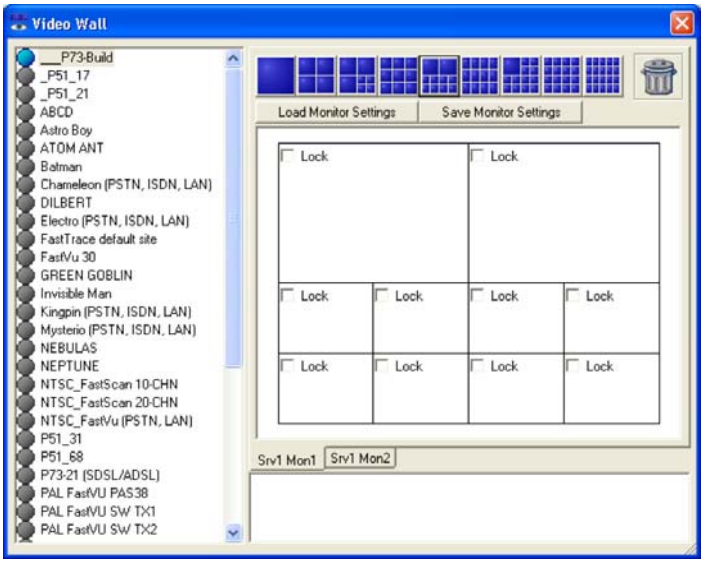
Use Administrator privilege to log on to the VideoCentral User Interface that has been upgraded to VideoCentral Gold V11 (or higher). At the User Interface, click the VideoWall icon.

A site list is presented down the left side of the screen; this lists all the sites in this VideoCentral system. The tabs along the bottom align with the monitors that were named using the VideoWall Configuration dialogue.

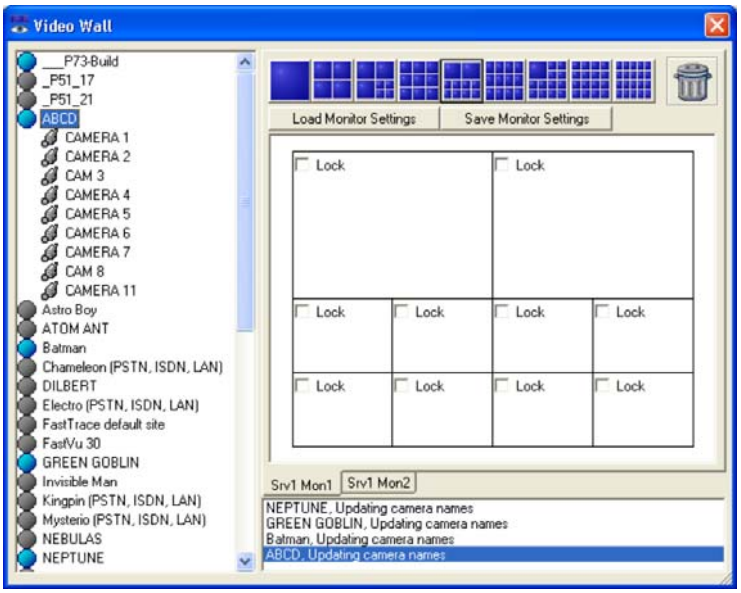


For FastScan transmitters only, one camera per site can be loaded and viewed on the VideoWall. If FastVu or FastTrace transmitters are used, VideoWall has the ability to display up to the transmitter's maximum of 20 cameras.

Configuration Example: It is decided that the first monitor on the VideoWall will need to display six (6) video cameos permanently (for example cameras around the front / back doors etc.) Four other cameos are to be reserved for operators to "park" their video. To do this, click on the "10-way split" icon.



This not only changes the dialog display on the PC, but also the display on the VideoWall monitor named as 'Srv1 Mon1'.



Selecting the site 'ABCD', will show a “spinning” symbol (shown at right) while the system is getting the camera names from the remote site. This may take a few seconds, as it is a network linkup. If using PSTN lines, connection times of 30-40 seconds may be experienced.

Once VideoCentral has connected to that site and retrieved the camera names, they are presented on the screen, allowing drag and drop on to the cameos on the right. There is also drag and drop between cameos to exchange locations.

Alternatively, click the Site (blue symbol) and drag onto the VideoWall to display all cameras. All cameras will be placed sequentially, up to the maximum number of splits selected.

To remove a camera, drag and drop off the monitor surface or drag to the “bin”.

To complete the example, drag and drop the six required cameras to six cameos of the VideoWall. The’ Lock’ checkbox in each of the six cameos may now be selected. Note that the six cameras can be from a mix of remote sites.

As this is being done, the VideoWall monitor will display live video streams from the selected site of the selected cameras.

Saving the VideoWall Configuration

Once configuration of the VideoWall is complete, the setup for **Srv1Mon1** can be saved to a file for easy recall.

The **Save Monitor Settings** tab is used to save and store the configuration.

The **Load Monitor Settings** retrieves the configuration file. Note that the correct monitor must be selected when a Load Monitor Settings is performed.

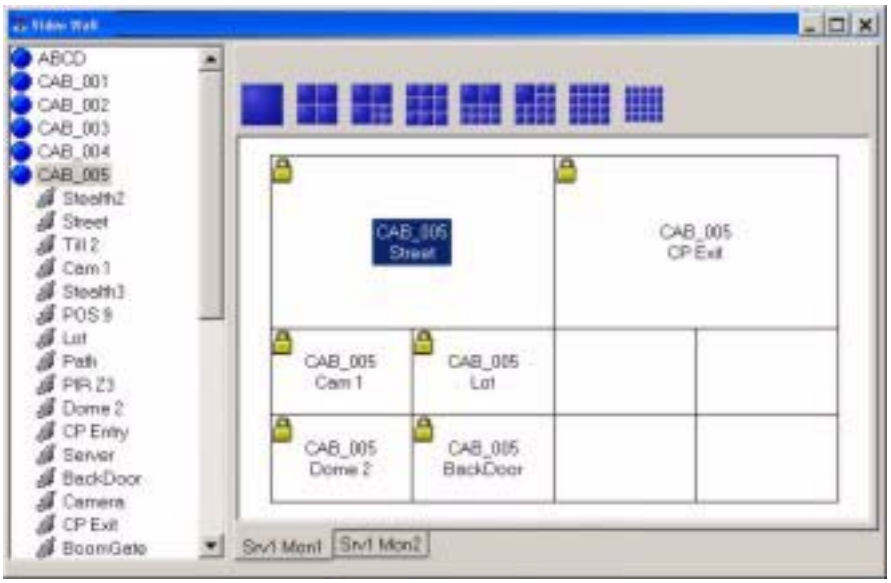
A separate file can be saved for each named monitor.

7.2 Operator Access

If logged in as an administrator, log out of the VideoCentral User Interface and log in again with Operator privileges.

Note: Logging into VideoCentral with Operator privilege does not allow the user to change the configuration of the VideoWall, for example re-setting the lock feature of a cameo locked by the Administrator, or changing the custom logo displayed on the (currently unused) cameos of the VideoWall. These features require the use of the Administrator or Installer privilege.

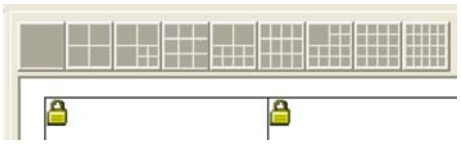
Launch VideoWall by clicking on the icon located on the sidebar of the VideoCentral User Interface.



Note that the cameos that were locked by the CMS administrator now have a "lock" icon attached. Camera images cannot be assigned to a cameo that is locked. Nor can cameras already in use in a locked cameo be moved to another cameo, even if the new cameo location is unlocked.

However, cameras that are not in use elsewhere may be dragged by an Operator into a cameo that has not been locked (last 4 cameras in this example).

Also note that when logged in with Operator privilege, if VideoWall cameos have been locked by Administrator or Installer privilege, then the screen split options are ghosted and cannot be altered.

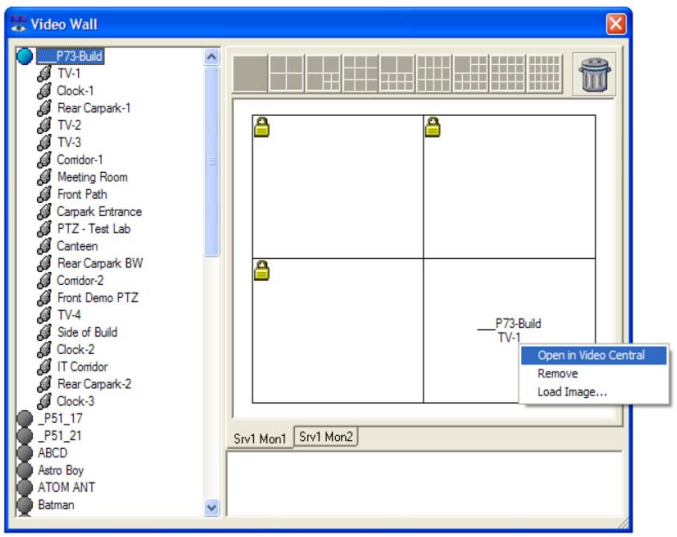


7.3 Interaction with VideoCentral

7.3.1 Alarm Operation

When an alarm occurs at a remote site, VideoCentral will place the alarm on the User Interface for action by the Operator. Selecting the alarm from the All Sites List will cause all cameras for the respective site to be displayed on the VideoWall with a highlighted red border and the last frame displayed as a still image.

Once the alarm has been acknowledged by the Operator, VideoWall will return to the live camera display in the original cameo.



When the VideoWall dialog is open, right click on a camera of interest. There are three options available:

Open in VideoCentral - VideoCentral will connect to that site and the camera of interest is displayed at the VideoCentral User Interface. If another operator has the respective site selected, then this function is not available.

Remove - Takes the camera off the VideoWall (same function as the “bin” icon).

Load Image - Loads a fixed image (logo) to be displayed in the cameo when it is unused. Most common file types are acceptable for loading (for example .bmp, .jpg, .png etc)

7.3.2 Control of PTZ and Audio

If a site with PTZ or Audio control is assigned to the VideoWall, these features will no longer be available to any other VideoCentral system that may connect to the respective transmitter.

7.3.3 Static Images on the VideoWall

Red Border - While cameras are being accessed manually by an operator (for example during an alarm), a reduced (size) cameo is highlighted with a red border and the last frame displayed.

Grey/Green Background - the background colour is displayed while images are being loaded from a site.

Red Background - Unable to retrieve video from site (90 seconds has elapsed)

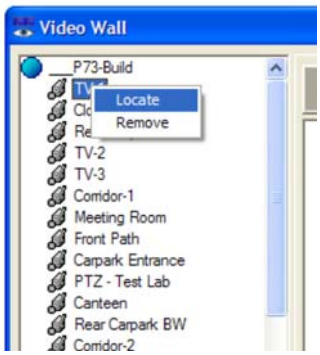
Yellow Background - Site has been disconnected (9 minutes has elapsed)

Logo display - No camera is associated with the cameo.

Blue Background - Camera has lost signal. Camera in a No Video state.

7.3.4 Camera Options

Right-click on a Camera Name on the (left-hand) list will display two options:



Locate - this option provides an easy method of finding the camera on the VideoWall. When selected, the cameo name will flash (inverse video) to highlight its position (or positions) on the VideoWall.

Remove - Takes the camera off the VideoWall (same function as the “bin” icon).

7.3.5 Site Options

Right-clicking the Site Name on the list will display the following options:

Locate - this option provides an easy method of finding the cameras (belonging to that Site Name) on the VideoWall. When selected, the cameras’ cameo name will flash (inverse video) to highlight its position (or positions) on the VideoWall.

Remove - Takes the Site off the VideoWall (same function as the “bin” icon).

Reconnect - Causes the site to be reconnected to the VideoWall when a yellow background is displayed.

7.3.6 Screen Saver Feature

In operational mode, the whole image is rotated clockwise (by five pixels) to help reduce monitor screen burn.